



US006744694B1

(12) **United States Patent**  
**Gieseke et al.**

(10) **Patent No.:** **US 6,744,694 B1**  
(45) **Date of Patent:** **Jun. 1, 2004**

(54) **GASEOUS CAVITY FOR FORWARD-LOOKING SONAR QUIETING**

(75) **Inventors:** **Thomas J. Gieseke, Newport, RI (US);**  
**Robert Kuklinski, Portsmouth, RI (US)**

(73) **Assignee:** **The United States of America as**  
**represented by the Secretary of the**  
**Navy, Washington, DC (US)**

(\*) **Notice:** **Subject to any disclaimer, the term of this**  
**patent is extended or adjusted under 35**  
**U.S.C. 154(b) by 0 days.**

(21) **Appl. No.:** **10/679,676**

(22) **Filed:** **Oct. 6, 2003**

(51) **Int. Cl.<sup>7</sup>** ..... **H04K 3/00**

(52) **U.S. Cl.** ..... **367/1; 367/901**

(58) **Field of Search** ..... **367/1, 87, 901,**  
**367/153; 114/242, 253**

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

**3,041,992 A**     **7/1962** **Lee**

3,915,106 A	10/1975	De Witt	
4,449,211 A	5/1984	Schmidt et al.	
5,008,863 A	4/1991	Archibald	
5,513,149 A *	4/1996	Salmi et al.	367/1
5,524,568 A	6/1996	Bobst	
5,717,657 A *	2/1998	Ruffa	367/131
5,787,048 A *	7/1998	Sanford	367/1
6,167,829 B1	1/2001	Lang	
6,567,341 B2 *	5/2003	Dreyer et al.	367/1

\* cited by examiner

**Primary Examiner**—**Ian J. Lobo**

(74) **Attorney, Agent, or Firm**—**James M. Kasischke;**  
**Michael P. Stanley; Michael F. Oglo**

(57) **ABSTRACT**

A sonar quieting system for a forward-looking sonar array is provided. The sonar quieting system includes a cavitator for forming an envelope, a strut for supporting the cavitator to a marine platform, such as a ship, a forward-looking sonar array mounted to a forward face of the cavitator, and a ventilation system for pumping a gas, such as air, into the envelope to create a gas cavity which envelops the supporting strut and equipment downstream of and during a forward movement of the cavitator.

**18 Claims, 1 Drawing Sheet**

